The Army's FutureCar

Story by Dennis Ward and Gil High
Photos by Gil High

BEFORE the event, Dennis Wend predicted that SmarTruck "could be, hands-down, the show-stealer at this year's Detroit Auto Show." As it turned out, the director of the Army's National Automotive Center may have underestimated the impact that the NAC's concept truck would have on both the news media and the viewing public.

Following the black-tie ceremony opening the Society of Automotive Engineers' annual convention in January, reporter Anita Lienert told Detroit News readers that SmarTruck was among the show's "most dramatic media launches."

Information Week reporter Sandra Swanson characterized the Army prototype vehicle as "a Ford F-350 pickup but with a little extra technology and testosterone. It includes oil-slick dispensers, night vision capability and onboard computers, plus intimidating features such as pepper spray that shoots up to 12 feet and high-voltage door handles designed to

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temporarily stun intruders."

When the show opened to the public the following morning, traffic was slow to build, due to the Army display's location away from the main floor where visitors rushed to see the newest models from the major manufacturers plus such exotic marques as Lamborgini, Aston Martin and Ferrari. But well before noon, the crowds were gathering to see what one reporter had described as "a pick-up that would leave James Bond's cars standing."

More Than James Bond

In fact, with its hidden body armor and bulletproof glass, the SmarTruck is not a glitzy new vehicle for 007, but a platform for NAC to test several antiterrorist and homeland-defense systems. The concept technology includes blinding lights, smoke and detection devices, and a roof-mounted grenade launcher and laser weapon.

Another attraction that drew people to the SmarTruck exhibit was a seven-minute film dramatization of the vehicle's potential value in today's urban jungles. In the video, SmarTruck safely and quickly transported a soldier carrying an embassy pouch through hostile demonstrators and more aggressive saboteurs.

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They also conceded that the SmarTruck's spy-game appeal may have overshadowed the other important automotive initiatives the Army was unveiling.

A Partnership In Motion

The other Army exhibits focused on automotive engineering breakthroughs resulting from cooperative research efforts between the NAC and its industry and academia partners. In all, 15 automotive equipment manufacturers and four academic research centers participated in the technical developments showcased by NAC and were recognized within the show's displays.

NAC-partnered technologies exhibited at the show included a state-of-the-art wiring system, new steel manufacturing and applications processes, and an "electronic drive" transmission being developed in partnership with General Motors' Allison Transmission Division.

The SmarTruck's sophisticated onboard computer systems enhance its occupants' communications capabilities, situational awareness and personal security.

A seven-minute video highlighting some of the SmarTruck's capabilities kept viewers on the edge of their seats.

A Greener Army

NAC officials said the transmission may eventually surface as the "techno-gem-sleeper" of the entire auto show.

Exhibitors explained that the value of electronic drive is that the transmission virtually takes control of the operating efficiency of its mated engine. The benefit to the automotive industry and consumers, they said, is that no matter which manufacturer provides the engine, the resultant power train will achieve a 60-percent improvement in fuel economy and a 90-percent reduction in pollutant emissions while maximizing the engine's operational efficiencies.

The transmission is already in use in select military trucks and in municipal busses now operating in several communities. Focusing on the Army's transformation efforts, exhibitors said the transmission is also earmarked for use in the Interim Armored Vehicle.

Benefits to Consumers

Billed as "next-generation electrical architecture," the electrical wiring system prototype at the show was developed in partnership with DaimlerChrysler and Oakland University's Product Development and Manufacturing Center.

The wiring system was demonstrated on an otherwise standard-looking Jeep Cherokee, but the system itself pushes the envelope in on-board diagnostics, the NAC exhibitors said. The new technology benefits consumers and the auto industry alike, they said, because it can provide owners, dealers and manufacturers with real-time monitoring of every component within the vehicle's frame, with the exception of the chassis.

For auto owners, the wiring system will provide the confidence and security of knowing all systems are up and running at their optimum each time the car is used, demonstrators said. Should a part begin showing signs of failure or if systemic problems surface in similar cars, owners would be notified immediately of both the problem and its recommended repairs, followed by an invitation to bring the vehicle to an authorized repair and maintenance facility.

Application of the system to military equipment, once matured, should be obvious, NAC officials said. It would provide battlefield commanders with total, real-time oversight of their armor and wheeled fleets throughout the critical stages of combat.

An NAC-industry partnership with Ford on display at the show explored innovative steel manufacturing applications that deliver more than 20 years of corrosion protection, reduce overall vehicle weight, and increase a vehicle's strength and structural integrity. This technology is being applied to the Ford IMPACT program and will become available for Ford's F-150 SuperCrew trucks by the 2005 production year, exhibitors said. □

The new "electronic drive" transmission being developed by GM can improve a vehicle's fuel efficiency by as much as 60 percent.